

MULTIMEDIA



UNIVERSITY

STUDENT ID NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2018/2019

MID2143– MATERIAL & MANUFACTURING PROCESSES

(All sections / Groups)

7 March 2019
2.30 p.m. – 4.30 p.m.
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 3 pages with 5 Questions only.
2. **Answer FOUR (4) only** from all FIVE (5) questions. The distribution of the marks for each question is given.
3. Please write all your answers in the Answer Booklet provided.

1. (A) List three (3) advantages and three (3) disadvantages of plastic Compression Molding process. (12 marks)
- (B) Identify three (3) types of products suitable to use plastic Injection Molding process. (3 marks)
- (C) Explain three (3) design character of product/component produced through Plastic Rotational Molding process. (3 marks)
- (D) (i) Discuss generally the criteria for plastic Composite Material process. (3 marks)
- (ii) List four (4) advantages of Hand Lay-Up Process for Composite materials. (4 marks)

(Total 25 marks)

2. (A) (i) Identify three (3) types of Metal Rolling processes. (3 marks)
- (ii) List two (2) products made from Metal Extrusion process. (2 marks)
- (B) Identify two (2) criteria's each for metal sheet cutting through the process of CNC, Laser and Punch. (6 marks)
- (C) (i) Explain briefly the definition of Chemical Machining (CM) for metal cutting process. (1.5 marks)
- (ii) Explain the definition of Electro Chemical Machining (ECM) for metal cutting process. (1.5 marks)
- (D) (i) Identify four (4) advantages from Water Jet with Abrasive cutting process for metal sheet. (4 marks)
- (ii) Define briefly the process of chip forming and non-chip forming for metal cutting process. (7 marks)

(Total 25 marks)

Continued....

3. (A) Explain four (4) advantages of plastic Injection Molding process. (8 marks)
- (B) Describe four (4) advantages of plastic Compression Molding process. (8 marks)
- (C) (i) Identify five (5) advantages of plastic Extrusion Blow Molding process. (5 marks)
- (ii) Identify Four (4) disadvantages of Metal Forging process. (4 marks)
- (Total 25 marks)**
4. (A) Identify four (4) advantages of Metal Die Casting process. (8 marks)
- (B) List three (3) character of product/component produced by Metal Sand Casting process. (6 marks)
- (C) (i) Identify four (4) types of Metal Welding for joining process. (4 marks)
- (ii) Identify four (4) types of Metal Soldering for joining process. (4 marks)
- (iii) Identify three (3) types of Metal Adhesive Machining for joining process.(3 marks)
- (Total 25 marks)**
5. (A) Describe three (3) basic criteria of product specification. (6 marks)
- (B) Explain two (2) criteria's each for the below category for product specifications:
For Design Concept, For Manufacturing and For Consumer. (12 marks)
- (C) Discuss the basic criteria of plastic type for Thermoset polymers and Thermoplastics. (7 marks)
- (Total 25 marks)**

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